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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,266	01/26/2004	Dennis Raymond Esterberg	200313035-1	6457

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EXAMINER

SEVER, ANDREW T

ART UNIT PAPER NUMBER

2851

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/763,266

Applicant(s)

ESTERBERG ET AL.

Examiner

Andrew T. Sever

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-23, 25-27 and 29-35 is/are rejected.
- 7) ☒ Claim(s) 13 and 28 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 January 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

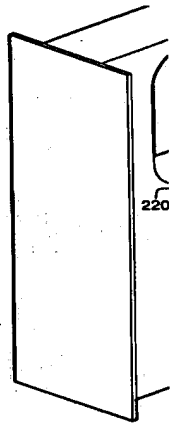
Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the surface that slides on a track of claim 13 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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Although it appears that said portion is shown in figure 2 (see below picture of what is thought to possible be the representation of said portion), it is unlabeled and therefore it is not completely clear that this part is the claimed part. Applicant should either clearly specify that this is the part or applicant should provide a drawing that shows the claimed portion clearly.



Claim Objections

2. Claims 1-35 are objected to because of the following informalities: color wheel, color wheel cartridge, color wheel disc are used interchangeably without notification. Appropriate correction is required.

In claim 14 a color wheel is defined as including a color wheel disc, however it is not clear in other claims (namely 1-13) that the term color wheel means a color wheel disc or whether in fact the term color wheel throughout the claims is equivalent to the color wheel cartridge. For purposes of a prior art rejection, the term color wheel will be held to be the same as the color wheel cartridge (or as used in other prior art, the color wheel assembly which includes the color wheel disc, motor, and associated electronics), except where such usage would result in the claim being indefinite or not make sense logically and in those cases it will be interpreted to be the color wheel disc. Appropriate correction and/or clarification is required.

3. Claims 22-30 are additionally objected to because of the following informalities: the numbering of the claims is incorrect and confusing. Appropriate correction is required.

Applicant has appeared to use the wrong claim numbers in indicating what the claims are dependent on. Means plus function claims are dependent on product claims that do not include any antecedent basis for the means and other parts of the claims and numerous instances of insufficient antecedent basis are found. Further many claims are duplicates

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of others or fail to limit their parent claims. Correct numbering is required. For purposes of a prior art rejection, a best guess of the proper dependency will be used based on the specific language of the claims and the effected claims will be rejected under 35 USC 103 based on Inamoto in view of Kunzman, however if applicant's correct numbering reveals a claim would have been more appropriately rejected under the 35 USC 102 rejection based on Inamoto the claim will be rejected accordingly in the next action and that rejection will be made final.

4. Claims 13, 24, and 28 would be objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims of the above objections (paragraphs 1 and 2) were overcome and if the above assumptions are correct. Reasons for this indication will be given in the below Allowance section of this office action.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 9, 10, and 11 recite the limitation "the data track" in claims 4 and 1. There is insufficient antecedent basis for this limitation in the claim.

This is the first mention of a "data track" in the claims, since the claims do not set forth where this data track would be or what specifically it comprises of; it is not possible to determine if the cutout would expose it or not in any prior art references. For example the Kunzman references (6,392,717) teaches the memory to be mounted separate from the actual color wheel (the part with the filters on it), accordingly they would not be exposed, but additionally the Kunzman reference teaches a timing mark which in some cases is optically read and this might be exposed.

Accordingly the claims are indefinite since the timing mark is not appropriately defined in the claims to determine what the claim is specifically claiming. For purposes of a prior art examination it will be assumed that the Index mark of Kunzman would qualify as a data track.

Any of claims 22-30 that are properly dependent on claims 9-11 are also rejected, however they have not indicated as such since as outlined in the above objection it is not clear which claims are properly dependent on these claims.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-3, 21, 25, and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Inamoto (US 2003/0095349.)

Inamoto teaches in figures 2 and 3 a color wheel cartridge (90), comprising:

A removable color wheel housing for receiving a color wheel (Although the stated purpose of the color wheel cartridge housing is for cooling not for removing, nevertheless all parts of a projector can be removed even if it requires some degree of difficulty), wherein the color wheel housing has a cutout portion (97) to permit light to be projected therethrough to impinge on only a portion of a color wheel disposed therein; and a color wheel (73).

With regards to applicant's claim 2:

The motor assembly is part 71.

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With regards to applicant's claim 3:

Clearly by inspection the cutout exposes less than 50% of the color wheel to light (it does not comprise at least an 180 degree arc which would be required to expose more than 50% to light.)

With regards to applicant's claim 21:

See above, wherein the means for replacing a color wheel is the color wheel which inherently can be replaced (the method of doing so being projector specific, but inherently present as anything that is mounted in a projector can be somehow removed). The means for directing light is light rod 31 as well as aperture 97.

With regards to applicant's claim 25:

See above.

With regards to applicant's claim 33:

Although it may not be recommended and void the warranty a user can replace the color wheel with enough effort in any projector that contains one.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 4-9, 11, 12, 14-20, 22, 23, 26, 27, 29-32, 34, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inamoto as applied to claims 1-3, 21, 25, and 33 above, and further in view of Kunzman (US 6,392,717.)

As described in more detail above Inamoto teaches a color wheel cartridge, however Inamoto does not specifically teach the presence of memory in said cartridge or on the color wheel contained within. Kunzman teaches a color wheel and teaches in figure 1 part 22 a processor, which in column 8 lines 33-51 is taught to include EPROM for

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storing color wheel values. Alternatively lines 49-60 teach an index mark, which can be considered a type of memory, mounted on the color wheel itself. The inclusion of the memory (in both forms) allows the color wheel to be tailored to the specific operation of an individual projector that it is mounted in (see column 2 lines 37-40.) Accordingly since light sources produce different amounts of brightness and/or projector are used in different environments it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the memory of Kunzman in the color wheel of Inamoto so that color wheel would have better performance that is specific to the projector it is used in.

With regards to applicant's claims 5 and 6:

See column 8 lines 33-51 of Kunzman.

With regards to applicant's claims 7 and 8:

See Kunzman column 11 lines 5-14 (and associated discussion in column 10) with respect to claim 7 and see column 9 lines 5-16 with regards to applicant's claim 8.

With regards to applicant's claim 9:

Kunzman teaches that the invention of Kunzman is an improvement over other prior art wheels which require the sensor to be moved in to the light path, accordingly Kunzman teaches its invention is such that data track as nearly as can be understood is not exposed to projection light. (See column 8 lines 52-60.)

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With regards to applicant's claim 11:

Kunzman clearly teaches that the index mark as well as the memory are necessary for proper functioning of Kunzman's projector accordingly it would be obvious to one of ordinary skill in the art at the time the invention was made to require said memory for authorizing the operation of the projector of Inamoto in view of Kunzman.

With regards to applicant's claim 12:

Since the memory of Kunzman is disposed within the color wheel cartridge is disposed adjacent a perimeter of the color wheel.

With regards to applicant's claims 14-20

See above. (The mounting hole is either the hole by which the projection light enters or the hole by which the motor mounts its axial to the color wheel.)

With regard to applicant's claim 22:

See above, specifically with regards to applicant's claim 11.

With regards to applicant's claims 23 and 27:

Kunzman teaches a reader in column 8 lines 52-65.

With regards to applicant's claim 26:

See the with regards to applicant's claim 11 above.

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With regards to applicant's claim 29:

See above.

With regards to applicant's claim 30:

See the with regards to applicant's claim 5 above.

With regards to applicant's claim 31 and 32:

The method of operating the projector of Inamoto in view of Kunzman is obvious since the projector itself is obvious.

With regards to applicant's claim 34:

It would be obvious that the projector would include logic for reading a memory on the color wheel as otherwise the memory would not be useable and Kunzman teach uses for the data stored in the memory.

With regards to applicant's claim 35:

This is the stated purpose of the index marks on Kunzman's color wheel and the reason Kunzman's teachings are combinable with that of Inamoto. (See for example column 10 line 59-67.)

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12. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inamoto in view of Kunzman as applied to claims 4-9, 11, 12, 14-20, 22, 23, 26, 27, 29-32, 34, and 35 above, and further in view of Nakanishi (US 2003/01298000.)

As described in more detail above Inamoto in view of Kunzman teaches a color wheel with among other thing memory disposed on it in the form of a index mark, however Inamoto in view of Kunzman does not teach where the index mark is located on the color wheel. Nakanishi teaches in figure 1 as well as other figures, that it is well known to place the index mark in the or adjacent a center of the color wheel. Optical index marks are generally placed towards the center since the filter portion of the wheel is generally at the periphery to maximize the number and/or size of the filters that can be used. Accordingly it would have been obvious to one of ordinary skill in the art to place the index mark of Inamoto in view of Kunzman at or adjacent to the center as taught by Nakanishi and other well known prior art.

Allowable Subject Matter

13. The following is a statement of reasons for the indication of potentially allowable subject matter:

Claim 13 claims that the color wheel housing includes a surface that slides on a track; Inamoto and/or Kunzman do not teach such a track and the only prior art which was found that teaches such a track is McDaniel which does not teach a motivation for the track which can be applied to Inamoto in view of Kunzman and McDaniel appears to be

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co-owned with the present application and would therefore not qualify as prior art under 35 USC 103(a) (McDaniel does not claim the limitations in such a way as to make obviousness type double patenting currently applicable).

Claims 24 and 28 as nearly as can be understood teach that the projection light is blocked when the data reader is activated. Since Kunzman uses the indicia while the projector is in use as well as during calibration it would not be obvious to block the light to the color wheel during use of the data reader, since this would disrupt the functioning of the projector of Inamoto in view of Kunzman and in view of Nakanishi.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US 6,874,892 to McDaniel teaches a similar color wheel exchanging system to the present invention and could be used to reject at least some claims under 35 USC 102(e). It also appears to be co-owned with the current application and should be reviewed when amending the present application to insure that no double patenting issues arise.

US 6,011,662 to Evans teaches in figure 1 a color wheel with exchangeable filters.

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US 6,755,554 to Ohmae et al. teaches in figure 2 a color wheel cartridge.

US 6,155,687 to Peterson teaches in figure 3E a projector having a color wheel that comprises of many of the presently claimed limitations.

US 6,567,225 to Derian teaches in figure 4 a color wheel cartridge with replaceable color filters (24) that include indices indicating which filter is present and in figure 5 a multi-color version.

US 4,758,075 to Hatano teaches in figure 4 a color wheel cartridge.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew T. Sever whose telephone number is 571-272-2128. The examiner can normally be reached on 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Nguyen can be reached on 571-272-2258. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AS



JUDY NGUYEN
SUPERVISORY PATENT EXAMINER